

# Reply on Comments on "Observation of a Fast Evolution in a Parity-time-symmetric System" (Aixiv.1106.1550)

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Masillo [1] commented on our manuscript [2] "Observation of a Fast Evolution in a Parity-time-symmetric System", pointing out a contradiction of our work with Ref. [3]. In this reply, we pointed out there is no disagreement between Masillo's comment and our work in Ref. [2]. The efficiency cost pointed out in Ref.[3] exists, namely to obtain the PT-symmetric hamiltonian evolution, one has to make a measurement on the auxiliary qubit and the auxiliary qubit is at state  $|0\rangle$  only probabilistically. This is reflected in the amplitude of the spectrum in the NMR quantum simulation. As a result, we made a small modification in a new version of the Ref. [2], and Fig. 2 of Ref.[2] has been replaced by spectra of two different  $\alpha$ 's in order to illustrate this fact.

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- [1] F. Masillo, Comments on "Observation of a Fast Evolution in a Parity-time-symmetric System", Aixiv.1106.1550.  
[2] Chao Zheng, Liang Hao and G. L. Long, Observation of a Fast Evolution in a Parity-time-symmetric System,

- arXiv:1105.6157.  
[3] F. Masillo, Some remarks on quantum brachistochrone.  
arXiv:1105.3332.